ALLERGIC ECZEMATOUS CONTACT-TYPE DERMATITIS CAUSED BY DDT

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Millions of persons have been exposed to DDT from its use during the last war, and since then, as a delousing agent and for general zoologic sanitation. While there is already a fairly large literature on the consitutional toxicity of DDT, proven cases of eczematous contact-type dermatitis caused by allergic sensitization to the agent have not been reported to date.

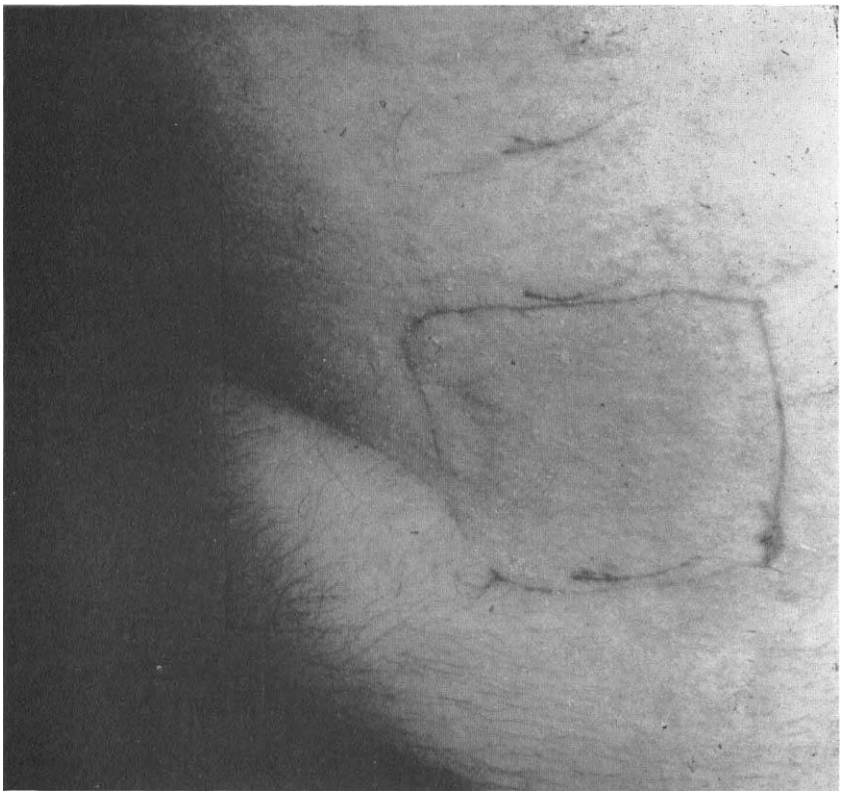

FIG. 1. RESULT OF PATCH TEST WITH 5% DDT IN ACETONE

Niedelman (1) recently recorded a case which is suggestive of a contact dermatitis from DDT but the evidence submitted is not, in my opinion, supported by rigorous proof in the form of indisputable patch test findings. Strycker and Godfroy (2) reported six cases of a pin-point, macular, purpuric eruption among workers in a DDT manufactory. These authors interpreted the eruption as dermatitis medicamentosa with DDT as the circumstantially implicated cause. No other proof but the circumstance of a common environment or work is adduced and, in any event, a noneczematous eruption is described. In an unpublished experimental study, Finkle and Rubin (3) recount the production of epi-

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dermal allergic sensitivity in one subject out of fifteen who were exposed deliberately by an application of 5% DDT in talc. The technique of application was to rub in the moistened material for three minutes on but one occasion. Upon retesting with patches of the same material after an adequate incubation period, one subject is reported to have shown an erythematous, papulo-vesicular reaction. Dunn, Dunn and Smith (4), in a study of the skin-sensitizing properties of DDT for the guinea pig, failed to produce allergic epidermal sensitivity by any of several different methods of exposure. In the Allergy Department of the New York Skin and Cancer Unit, patch tests with 5% DDT in acetone have been applied to fifty unselected, consecutive cases. These tests produced no skin reactions in any individual who was not suspect of sensitization to DDT. A 5% concentration of DDT in acetone, then, has no properties of primary irritancy and the combination is established as one suitable for patch testing for eczematous hypersensitivity.

CASE REPORT

S. S., a fireman, presented a generalized eczematous eruption of nine months' duration involving the face, upper trunk and extremities, particularly the flexural spaces. The history revealed that the eruption appeared about one week after the patient had sprayed a garden with a liquid commercial preparation containing DDT. Patch tests were performed with 5% DDT in acetone and with a series of common eczematogenic allergens. The results were a marked erythematous, papulo-vesicular reaction (3 plus) to the 5% DDT in acetone and a faint reaction (erythema, 1 plus) to 1:1000 aq. sol. of mercury bichloride. There were no reactions to copper sulphate, turpentine, sodium arsenate, pyrethrum, paraphenylenediamine, formalin, nickel sulphate, linseed oil and ammonium fluoride. A patch test with the commercial DDT preparation produced a very marked reaction (4 plus). The eruption gradually faded under symptomatic and palliative topical treatment, but the course was characterized by episodic exacerbations of the dermatitis, particularly on the face and in the antecubital fossae.

COMMENT

This case is reported as a proven instance of allergic sensitization to DDT and of an eczematous dermatitis caused thereby. In support thereof the following facts can be cited:

1. There was a known exposure.
2. There was an adequate incubation period.
3. There was an indisputable eczematous reaction to a patch test with DDT in a concentration and in a vehicle to which normal controls do not react.
4. The clinical picture of the eruption was eczematous; and the clinical progression fitted well with the course of contact-type eczematous dermatititis due to allergic sensitivity to airborne or persistently adherent allergens like DDT, pyrethrum and ragweed pollen.

REFERENCES

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